*J Biol Chem* 1999 Apr 16;274(16):10927-35

# Cyclic GMP-dependent protein kinase activates cloned BKCa channels expressed in mammalian cells by direct phosphorylation at serine 1072.

**Fukao M, Mason HS, Britton FC, Kenyon JL, Horowitz B, Keef KD**

Department of Physiology and Cell Biology, University of Nevada School of Medicine, Reno, Nevada 89557, USA.

NO-induced activation of cGMP-dependent protein kinase (PKG) increases the open probability of large conductance Ca2+-activated K+ channels and results in smooth muscle relaxation. However, the molecular mechanism of channel regulation by the NO-PKG pathway has not been determined on cloned channels. The present study was designed to clarify PKG-mediated modulation of channels at the molecular level. The cDNA encoding the alpha-subunit of the large conductance Ca2+-activated K+ channel, cslo-alpha, was expressed in HEK293 cells. Whole cell and single channel characteristics of cslo-alpha exhibited functional features of native large conductance Ca2+-activated K+ channels in smooth muscle cells. The NO-donor sodium nitroprusside increased outward current 2.3-fold in whole cell recordings. In cell-attached patches, sodium nitroprusside increased the channel open probability (NPo) of cslo-alpha channels 3.3-fold without affecting unitary conductance. The stimulatory effect of sodium nitroprusside was inhibited by the PKG-inhibitor KT5823. Direct application of PKG-Ialpha to the cytosolic surface of inside-out patches increased NPo 3.2-fold only in the presence of ATP and cGMP without affecting unitary conductance. A point mutation of cslo-alpha in which Ser-1072 (the only optimal consensus sequence for PKG phosphorylation) was replaced by Ala abolished the PKG effect on NPo in inside-out patches and the effect of SNP in cell attached patches. These results indicate that PKG activates cslo-alpha by direct phosphorylation at serine 1072.

PMID: 10196172, UI: 99214165

1: J Cardiovasc Pharmacol 2000 Mar;35(3):390-7

# The vasodilator-stimulated phosphoprotein (VASP): target of YC-1 and nitric oxide effects in human and rat platelets.

Becker EM, Schmidt P, Schramm M, Schroder H, Walter U, Hoenicka M, Gerzer R, Stasch JP

Institute of Cardivascular and Arteriosclerosis Research, Bayer AG, Wuppertal, Germany.

[Medline record in process]

The effects of the different types of soluble guanylate cyclase (sGC) stimulators on the phosphorylation status of vasodilator-stimulated phosphoprotein (VASP) in both human and rat platelets were studied under in vitro and in vivo conditions. sGC-dependent VASP phosphorylation (at Ser(239) and Ser(157)) both by the new direct sGC stimulator YC-1 and by NO donors was examined by sodium dodecylsulfate-polyacrylamide gel electrophoresis (SDS/PAGE) with different antibodies. One antibody, which recognizes VASP independent of its phosphorylation state, was used to detect the mobility shift of VASP caused by Ser(157) phosphorylation. The other antibody was specifically directed against VASP phosphorylated at Ser(239), the cGMP-dependent protein kinase (PKG) preferred phosphorylation site of VASP. In vitro YC-1 increased both VASP phosphorylation and cyclic guanosine monophosphate (cGMP) levels as did the NO donors 2-(N,N-diethylamino)-diazenolate-2-oxide (DEA/NO) and sodium nitroprusside (SNP). The combination of both types induced a synergistic effect in both VASP phosphorylation and cGMP increase. In rat platelets, similar effects could be shown in vitro. In vivo we observed a significant increase in cGMP and a distinct effect on VASP phosphorylation in rat platelets 1 h after oral administration of YC-1. These biochemical alterations are supported by a significant prolongation in rat-tail bleeding time. Direct stimulators of sGC like YC-1 are on the one hand direct potent stimulators of the cGMP/PKG/VASP pathway in platelets and on the other hand synergize with NO, the physiologic stimulator of sGC. Therefore YC-1-like substances are interesting tools for the development of new cardiovascular drugs with vasodilatory and antithrombotic properties.

PMID: 10710123, UI: 20173357

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*Neurosci Lett* 1998 May 29;248(2):127-9

# Nitric oxide activates Ca2+-activated K+ channels in cultured bovine adrenal chromaffin cells.

**Chen CH, Houchi H, Ohnaka M, Sakamoto S, Niwa Y, Nakaya Y**

Department of Nutrition, School of Medicine, University of Tokushima, Japan.

The effects of sodium nitroprusside (SNP) on Ca2+-dependent K+ (KCa) channels in cultured bovine adrenal chromaffin cells were investigated using single channel recording patch-clamp techniques. KCa channels were activated by application of 100 microM SNP to the extracellular side of cell-attached patches. Methylene blue (300 microM), an inhibitor of soluble guanylate cyclase, or H-8 (1 microM), a protein kinase inhibitor with relative specificity for cGMP-dependent protein kinase, diminished but did not completely abolish the SNP-induced KCa channel activation. Diethylamine/NO complex (DEA/NO), an NO donor, also activated KCa channels in cell-attached patches. Furthermore, application of 100 microM SNP or 100 nM DEA/NO to the intracellular surface of excised inside-out patches also activated KCa channels in the bath solution which contained 1 microM Ca2+. These results indicate that SNP is capable of activating the KCa channel via cGMP-dependent and -independent mechanisms. These studies demonstrate that NO may serve as an important regulatory mechanism for catecholamine secretion in chromaffin cells via the activation of KCa channels.

PMID: 9654359, UI: 98316931

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*J Pharmacol Exp Ther* 1998 Jul;286(1):110-4

# Relaxing effects of NO donors on guinea pig trachea in vitro are mediated by calcium-sensitive potassium channels.

**Vaali K, Li L, Paakkari I, Vapaatalo H**

Department of Pharmacology and Toxicology, University of Helsinki, Finland.

The relaxing effects of the nitric oxide (NO) donors 1,2,3,4-oxatriazolium,3-(3-chloro-2-methylphenyl-5-[[(4-methoxyphe nyl) sulfonyl]amino]-,hydroxide inner salt (GEA 3268) 1,2,3,4-oxatriazolium,3-(3-chloro-2-methyphenyl-5-[methys ulfonyl)amino]-hydroxide inner salt (GEA 5145), 3-morpholinosydnonimine (SIN-1) and S-nitroso-N-acetylpenicillamine (SNAP) were inhibited in vitro by iberiotoxin (IbTX) and charybdotoxin (ChTX), the two selective inhibitors of Ca(++)-activated K+ channels (KCa) in guinea pig trachea. When studied in cumulative concentrations in metacholine constriction, the relaxing effects of the NO donors were inhibited by at least 70% in the presence of the toxins, with the exception of SIN-1 in the presence of ChTX. The inhibitory effect of ChTX was less marked than that of IbTX. This suggests that the relaxing effects of the structurally different NO donors are mediated through KCa channels and that IbTX is more potent than ChTX. A selective inhibitor of soluble guanylate cyclase, 1H-[1,2,4]oxadiazolo[4,3-a]quinozalin-1-one (ODQ), significantly inhibited the relaxing effects of GEA 3268 and GEA 5145 on metacholine and KCl constriction and almost totally inhibited the relaxing effects of SIN-1 and SNAP. The inhibitor of the delayed rectifier K+ channel current 4-aminopyridine did not influence the relaxations of the NO donors, and under the experimental conditions of this study, the ATP-sensitive K+ channel inhibitor glibenclamide had no effect. In conclusion, the relaxing effects of the structurally different NO-releasing compounds are mediated via KCa channels. However, the significance of some other possible mechanisms unrelated to K+ channels cannot be excluded.

PMID: 9655848, UI: 98330515

1: Br J Pharmacol 1999 Mar;126(6):1437-43

# Inhibitory effect of 4-aminopyridine on responses of the basilar artery to nitric oxide.

Sobey CG, Faraci FM

Department of Pharmacology, The University of Melbourne, Parkville, Victoria, Australia. c.sobey@pharmacology.unimelb.edu.au

1. Voltage-dependent K+ channels are present in cerebral arteries and may modulate vascular tone. We used 200 microM 4-aminopyridine (4-AP), thought to be a relatively selective inhibitor of voltage-dependent K+ channels at this concentration, to test whether activation of these channels may influence baseline diameter of the basilar artery and dilator responses to nitric oxide (NO) and cyclic GMP in vivo. 2. Using a cranial window in anaesthetized rats, topical application of 4-AP to the basilar artery (baseline diameter = 240+/-5 microm, mean +/- s.e.mean) produced 10+/-1% constriction. Sodium nitroprusside (a NO donor), acetylcholine (which stimulates endothelial release of NO), 8-bromo cyclic GMP (a cyclic GMP analogue), cromakalim (an activator of ATP-sensitive K+ channels) and papaverine (a non-NO, non-K+ channel-related vasodilator) produced concentration-dependent vasodilator responses that were reproducible. 3. Responses to 10 and 100 nM nitroprusside were inhibited by 4-AP (20+/-4 vs 8+/-2% and 51+/-5 vs 33+/-5%, respectively, n=10; P<0.05). Responses to acetylcholine and 8-bromo cyclic GMP were also partially inhibited by 4-AP. In contrast, 4-AP had no effect on vasodilator responses to cromakalim or papaverine. These findings suggest that NO/cyclic GMP-induced dilator responses of the basilar artery are selectively inhibited by 4-aminopyridine. 4. Responses to nitroprusside were also markedly inhibited by 10 microM 1H-[1,2,4]oxadiazolo[4,3-a]quinoxalin-1-one (an inhibitor of soluble guanylate cyclase; 16+/-4 vs 1+/-1% and 44+/-7 vs 7+/-1%; n=10; P<0.05). 5. Thus, dilator responses of the rat basilar artery to NO appear to be mediated by activation of soluble guanylate cyclase and partially by activation of a 4-aminopyridine-sensitive mechanism. The most likely mechanism would appear to be activation of voltage-dependent K+ channels by NO/cyclic GMP.

PMID: 10217538, UI: 99231890

1: Acta Physiol Scand 2000 Jan;168(1):41-45

# Mode of nitric oxide action on the renal vasculature.

Kurtz A, Gotz K, Hamann M, Sandner P

Institut fur Physiologie der Universitat Regensburg, Regensburg, Germany.

[Record supplied by publisher]

Our study aimed to characterize the essential cellular pathways along which nitric oxide (NO) exerts its well-known vasodilatatory properties in the kidney. Using the isolated perfused rat kidney model we examined the roles of potassium channels, cGMP-protein kinase activity and cAMP-phosphodiesterases (PDE) in the effect of NO on renovascular resistance. We found that neither potassium channel activity nor G-kinase activity was essential for the vasodilatatory effect of NO. The effect of NO, however, was essentially mimicked by pharmacological inhibition of PDE-3, which is a cGMP-inhibitable PDE. As PDE-3 is strongly expressed in renal preglomerular vessels and NO stimulates cGMP formation in renal vessels, it appears likely that inhibition of cAMP degradation and consequently the cAMP pathway are crucially involved in mediating the effects of NO on renal vascular resistance.

PMID: 10691778

KNDU -> POETS -> Eva

# WordNet 1.7 Vocabulary Helper: *medicament*

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## Overview of noun medicament

### The noun medicament has 1 sense (no senses from tagged texts)

- 1. medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)

Go to the top of this page.

## Hyponyms of noun medicament

1 sense of **medicament**

### Sense 1

medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)

- acyclovir, Zovirax -- (an oral antiviral drug (trade name Zovirax) used to treat genital herpes; does not cure the disease but relieves the symptoms)
- allopurinol, Zyloprim -- (a drug (trade name Zyloprim) used to treat gout and other conditions in which there is an excessive buildup of uric acid)
- amrinone, Inocor -- (a drug (trade name Inocor) used intravenously in heart failure; increases strength of contraction of myocardium)

- analgesic, anodyne, painkiller, pain pill -- (a medicine used in to relieve pain)
- angiogenesis inhibitor -- (a drug that is designed to prevent the growth of blood vessels that nourish tumors)
- antiarrhythmic, antiarrhythmic drug, antiarrhythmic medication -- (a drug used to treat an abnormal heart rhythm)
- antibacterial, antibacterial drug, bactericide -- (any drug that destroys bacteria or inhibits their growth)
- anticholinergic, anticholinergic drug -- (a substance that opposes or blocks the action of acetylcholine)
- anticholinesterase -- (a medicine that inhibits cholinesterase by combining with it and so has a cholinergic effect)
- anticoagulant, anticoagulant medication, decoagulant -- (medicine that prevents or retards the clotting of blood)
- anticonvulsant, anticonvulsant drug, antiepileptic, antiepileptic drug -- (a drug used to treat or prevent convulsions (as in epilepsy))
- antidepressant, antidepressant drug -- (any of a class of drugs used to treat depression; often have undesirable side effects)
- antidiabetic, antidiabetic drug -- (a drug used to treat diabetes mellitus)
- antidiarrheal, antidiarrheal drug -- (a drug used to control or stop diarrhea)
- antidiuretic, antidiuretic drug -- (a drug that limits the formation of urine)
- antiemetic, antiemetic drug -- (a drug that prevents or alleviates nausea and vomiting)
- antihistamine -- (a medicine used to treat allergies and hypersensitive reactions and colds; works by counteracting the effects of histamine on a receptor site)
- antihypertensive, antihypertensive drug -- (a drug that reduces high blood pressure)
- anti-inflammatory, anti-inflammatory drug -- (a medicine intended to reduce inflammation)
- antiprotozoal, antiprotozoal drug -- (a medicinal drug used to fight diseases (like malaria) that are caused by protozoa)
- antipyretic, febrifuge -- (any medicine that lowers body temperature to prevent or alleviate fever)
- antiseptic -- (a substance that destroys micro-organisms that carry disease without harming body tissues)
- antispasmodic, spasmolytic, antispasmodic agent -- (a drug used to relieve or prevent spasms (especially of the smooth muscles))
- antitussive -- (any medicine used to suppress or relieve coughing)
- antiviral, antiviral agent -- (any drug that destroys viruses)
- APC -- (a drug combination found in some over-the-counter headache remedies (Aspirin and Phenacetin and Caffeine))
- astringent, astringent drug, styptic -- (a drug that causes contraction of body tissues and canals)
- atomic cocktail -- (an oral dose of radioactive substance used in treatment and diagnosis of cancer)
- azathioprine, Imuran -- (an immunosuppressive drug (trade name Imuran) used to prevent rejection of a transplanted organ)
- azidothymidine, AZT, zidovudine -- (an antiviral drug used in the treatment of AIDS; adverse side effects include liver damage and suppression of the bone marrow)
- blocker, blocking agent -- (a class of drugs that inhibit (block) some biological process)
- bronchodilator -- (a drug that relaxes and dilates the bronchial passageways and improves the passages of air into the lungs)
- calcium blocker, calcium-channel blocker -- (any of a class of drugs that block the flow of the electrolyte calcium (either in nerve cell conduction or smooth muscle contraction (of the heart)); has been used in the treatment of angina or arrhythmia or hypertension or migraine)

- carminative -- (medication that prevents the formation of gas in the alimentary tract or eases its passing)
- clofibrate, Atromid-S -- (a drug (trade name Atromid-S) that reduces lipids in the blood serum; used to treat some cardiovascular diseases)
- cold medicine -- (medicine intended to relieve the symptoms of the common cold)
- counterirritant -- (a medicine applied locally to produce superficial inflammation in order to reduce deeper inflammation)
- cytotoxic drug -- (any drug that has a toxic effect on cells; commonly used in chemotherapy to inhibit the proliferation of cancerous cells)
- decongestant -- (a drug that decreases pulmonary congestion)
- demulcent -- (a medication (in the form of an oil or salve etc.) that soothes inflamed or injured skin)
- diaphoretic -- (used to produce perspiration)
- disulfiram, Antabuse -- (a drug (trade name Antabuse) used in the treatment of alcoholism; causes nausea and vomiting if alcohol is ingested)
- dose -- (a measured portion of medicine taken at any one time)
- Drixoral -- (the trade name for a drug used to treat upper respirator congestion; it contains an antihistamine and a bronchodilator and a vasoconstrictor)
- emetic, vomit, vomitive, nauseant -- (a medicine that induces nausea and vomiting)
- expectorant, expectorator -- (a medicine promoting expectoration)
- fixed-combination drug -- (drug containing fixed amounts of two or more ingredients)
- gemfibrozil, Lopid -- (medication (trade name Lopid) used to lower the levels of triglyceride in the blood)
- hematinic, haematinic -- (a medicine that increases the hemoglobin content of the blood; used to treat iron-deficiency anemia)
- histamine blocker -- (a medicine used to treat the gastric effects of histamine in cases of peptic ulcers and gastritis and gastroesophageal reflux; works by blocking the effects of histamine on the receptor site known as H2)
- immunosuppressant, immunosuppressive drug, immune suppressant drug -- (a drug that lowers the body's normal immune response)
- inhalant -- (a medication to be taken by inhalation)
- isoproterenol, Isuprel -- (drug (trade name Isuprel) used to treat bronchial asthma and to stimulate the heart)
- isosorbide, Isordil -- (drug (trade name Isordil) used to treat angina pectoris and congestive heart failure)
- lipid-lowering medicine, lipid-lowering medication, statin drug, statin -- (a medicine that lowers blood cholesterol levels by inhibiting HMG-CoA reductase)
- methacholine, Mecholyl -- (parasympathomimetic drug (trademark Mecholyl) that stimulates secretions and smooth muscle activity)
- nux vomica -- (a medicine made from the seeds of an Asiatic tree; contains strychnine and brucine; formerly used as a stimulant)
- over-the-counter drug, over-the-counter medicine -- (a drug that is sold without a prescription)
- oxytocic, oxytocic drug -- (a drug that induces labor by stimulating contractions of the muscles of the uterus)
- paregoric, camphorated tincture of opium -- (medicine used to treat diarrhea)
- patent medicine -- (medicine that is protected by a patent and available without a doctor's prescription)
- penicillamine, Cuprimine -- (a drug (trade name Cuprimine) used to treat heavy metal poisoning and Wilson's disease and severe arthritis)
- pentylenetetrazol, pentamethylenetetrazol, Metrazol -- (a drug used as a circulatory and

respiratory stimulant; larger doses cause convulsions in shock therapy; Metrazol is a trademark)
- pharmaceutical -- (drug or medicine that is prepared or dispensed in pharmacies and used in medical treatment)
- placebo -- (an innocuous or inert medication; given as a pacifier or to the control group in experiments on the efficacy of a drug)
- poultice, cataplasm, plaster -- (medicine consisting of a soft heated mass of meal or clay that is spread on a cloth and applied to the skin to treat inflamed areas or improve circulation etc.)
- powder -- (any of various cosmetic or medical preparations dispensed in the form of a powder)
- prescription drug, prescription, prescription medicine, ethical drug -- (a drug that is available only with written instructions from a doctor or dentist to a pharmacist; *``he told the doctor that he had been taking his prescription regularly''* )
- probenecid -- (drug that reduces the level of uric acid in the blood; used to treat gout)
- purgative, cathartic, physic, aperient -- (a purging medicine; stimulates evacuation of the bowels)
- remedy, curative, cure -- (a medicine or therapy that cures disease or relieve pain)
- rubefacient -- (a medicine for external application that produces redness of the skin)
- sedative, sedative drug, depressant, downer -- (a drug that reduces excitability and calms a person)
- soothing syrup -- (medicine in the form of a syrup that has a calming effect)
- specific -- (a medicine that has a mitigating effect on a specific disease; *``quinine is a specific for malaria''* )
- sucralfate, Carafate -- (medicine consisting of a tablet (trade name Carafate) used to treat peptic ulcers; said to bind to the ulcer site and coat it)
- suppository -- (a small plug of medication designed for insertion into the rectum or vagina where it melts)
- tincture -- ((pharmacology) a medicine consisting of an extract in an alcohol solution)
- tonic, restorative -- (a medicine that strengthens and invigorates)
- tyrosine kinase inhibitor -- (a drug used in cases of chronic myeloid leukemia)
- vermicide -- (an agent that kills worms (especially those in the intestines))
- vermifuge, anthelmintic, anthelminthic, helminthic -- (a medication capable of causing the evacuation of parasitic intestinal worms)

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# Synonyms/Hypernyms (Ordered by Frequency) of noun medicament

1 sense of **medicament**

## Sense 1

medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)

- drug -- (a substance that is used as a medicine or narcotic)

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# Substance Meronyms of noun medicament

1 sense of **medicament**

## Sense 1

medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)
HAS SUBSTANCE: physostigmine -- (used in treatment of Alzheimer's disease and glaucoma)

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# Meronyms of noun medicament

1 sense of **medicament**

## Sense 1

medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)
HAS SUBSTANCE: physostigmine -- (used in treatment of Alzheimer's disease and glaucoma)

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# Coordinate Terms (sisters) of noun medicament

1 sense of **medicament**

## S nse 1

medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)

- drug -- (a substance that is used as a medicine or narcotic)
- abortifacient, aborticide, abortion-inducing drug -- (a drug (or other chemical agent) that causes abortion)
- anesthetic, anaesthetic, anesthetic agent, anaesthetic agent -- (a drug that causes temporary loss of bodily sensations)
- antagonist -- (a drug that neutralizes or counteracts the effects of another drug)
- antisyphilitic -- (a drug (or other chemical agent) that is effective against syphilis)
- anti-TNF compound -- (a class of drugs that block the action of tumor necrosis factor (TNF); used in cases of rheumatoid arthritis because TNF instigates inflammation of the joints)

- dilator -- (a drug that causes dilation)
- diuretic drug, diuretic -- (any substance that tends to increase the flow of urine)
- drug of abuse, street drug -- (a drug that is taken for nonmedicinal reasons (usually for mind-altering effects); drug abuse can lead to physical and mental damage and (with some substances) dependence and addiction)
- Feosol -- (trade name of a drug rich in iron; used to treat some kinds of anemia)
- Fergon -- (trade name of a drug rich in iron; used to treat some types of anemia)
- fertility drug -- (a drug used to increase a woman's fertility)
- intoxicant -- (a drug that can produce a state of intoxication)
- levallorphan, Lorfan -- (drug (trade name Lorfan) that is related to morphine but that counteracts the respiratory depression produced by morphine poisoning but without affecting its analgesic effects)
- medicine, medication, **medicament**, medicinal drug -- (something that treats or prevents or alleviates the symptoms of disease)
- mydriatic, mydriatic drug -- (a drug that causes the pupil of the eye to dilate; used to aid eye examinations)
- narcotic -- (a drug that produces numbness or stupor; often taken for pleasure or to reduce pain; extensive use can lead to addiction)
- pentoxifylline, Trental -- (a drug (trade name Trental) used to treat claudication; believed to increase the flexibility of red blood cells so they can flow through the blood vessels to the legs and feet)
- psychoactive drug, mind-altering drug, consciousness-altering drug, psychoactive substance -- (a drug that can produce mood changes and distorted perceptions)
- psychotropic agent -- (a chemical substance that can influence human consciousness)
- relaxant -- (a drug or treatment that relaxes and relieves tension)
- soporific, hypnotic -- (a drug that induces sleep)
- stimulant, stimulant drug -- (a drug that temporarily quickens some vital process)
- suppressant, appetite suppressant -- (a drug that suppresses appetite)
- synergist -- (a drug that augments the activity of another drug)
- virility drug, anit-impotence drug -- (drug to treat impotence attributable to erectile dysfunction)

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## Holonyms of noun medicament

**End of WordNet output for *medicament*.**

# WordNet 1.7 Vocabulary Helper

**Word:**
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Eva is a service of the POETS Project at Kyoto Notre Dame University.
Version: evaword.pl-1.102 2002/04/17 03:01
*Greg Peterson <peterson at notredame.ac.jp>*

1: Ann Ophthalmol 1975 Jul;7(7):921-3

# Delta(9)-tetrahydrocannabinol,, euphoria and intraocular pressure in man.

Purnell WD, Gregg JM.

Delta(9)-tetrahydrocannabinol (THC), an active narcotic principle of marijuana, was solubilized and administered intravenously to two male volunteers. Changes in intraocular pressure were recorded and compared to changes in the cortical effects of THC, as indicated by the subjects' report of degree of "high." The peak effect of THC on the central nervous system coincided well with the reduction of intraocular pressure induced by the drug; hypotony, however, outlasted euphoria. The results indicate that THC may have value as a hypotonizing ocular medicant.

PMID: 1147519 [PubMed - indexed for MEDLINE]

1: Poult Sci 1991 Mar;70(3):476-82

# Effects of exposing broiler breeders to nicarbazin contaminated feed.

Hughes BL, Jones JE, Toler JE, Solis J, Castaldo DJ.

Department of Poultry Science, Clemson University, Clemson, South Carolina 29634-0379.

Ten-mo-old broiler feeds were fed nicarbazin (NCZ) at 0, 25, 50 and 100 ppm of their diet for 2, 4, or 6 days to simulate accidental contamination of their feed with the medicant. Reduced egg production was observed in all treatments except 25 and 50 ppm NCZ for 2 days. A consistent reduction in egg weight occurred only at the maximum treatment level of 100 ppm for 6 days. Reduction in hatchability was generally evident by Days 5 and 6 of the experiment except for the lowest treatment of 25 ppm NCZ for 2 days. Due partially to the low number of eggs set, no statistically significant reduction in hatchability was seen for the group receiving 50 ppm NCZ for 4 days, but hatchability had dropped over 17 percentage points (from 93.3 to 75.5%) by Days 5 and 6 of the experiment, and continued to drop to a low of 31% on Days 11 and 12 of the experiment. Shell pigmentation was the most sensitive characteristic measured, with significant depigmentation occurring after only 2 days of feeding 25 ppm NCZ. Generally, the severity and duration of effects were in proportion to medicant concentration and length of treatment time. Fertility was not influenced by the medicant.

PMID: 2047341 [PubMed - indexed for MEDLINE]

1: Eur J Clin Pharmacol 1990;38(2):153-5

# Plasma and cerebrospinal fluid concentration of temazepam following oral drug administration.

Badcock NR, Osborne GA, Nyman TL, Sansom LN, Russell WJ, Frewin DB.

Department of Chemical Pathology, Adelaide Children's Hospital, South Australia.

Thirteen male patients were administered 20 mg of temazepam orally 1 to 2 h prior to undergoing spinal anaesthesia for a urological procedure. Samples of blood and CSF were drawn just before insertion of the spinal and the concentration of drug estimated in these two media. The results obtained indicated that a highly significant correlation existed between the unbound concentration of temazepam in plasma and the concentration of drug present in CSF. Temazepam appeared to be an effective light pre-medicant in all of the subjects studied.

PMID: 1970959 [PubMed - indexed for MEDLINE]

1: Zentralbl Veterinarmed A 1990 Apr;37(3):170-3

# Haloperidol as a pre-medicant for thiopental anaesthesia in the dog.

Sobti VK, Singh K, Bansal PS, Singh N, Rathor SS.

Department of Veterinary Surgery and Radiology, Punjab Agricultural University, Ludhiana, India.

Haloperidol was administered intravenously at the dose rate of 0.87 mg/kg body weight five minutes prior to thiopental anaesthesia in 5 clinically healthy dogs, aged 10-12 months and weighing 11.5 +/- 0.96 kg. Animals required only 4.36 +/- 0.24 ml of the 5% thiopental sodium to achieve surgical anaesthesia which lasted for 37.5 +/- 4.3 minutes. There was adequate muscle relaxation and loss of pedal and palpebral reflexes during thiopental anaesthesia. Five minutes after administration of haloperidol, there was no appreciable change in the various cardiopulmonary dynamics with the exception of a hypocapnoea and a mild hypotension. During thiopentone anaesthesia, a mild hypotension and arterial hypoxemia was evident. This combination of anaesthesia was also employed in 14 clinical cases varying from fractures of long bones (4), mammary tumours (3), ear haematoma (4), venereal granuloma (2) and abdominal hernia (1). The combination proved extremely useful for orthopaedic surgery as the muscle relaxation was adequate and the reduction of the fractured ends was relatively easy.

PMID: 2114711 [PubMed - indexed for MEDLINE]